MOILING FOR GOLD

By ROBERT F. SHURTZ, '37

THERE ARE STRANGE THINGS DONE IN THE MIDNIGHT SUN
BY THE MEN WHO MOIL FOR GOLD

THE history of man's search after metals has had its wildest, most romantic moments during the major gold rushes. From that dim, distant day when the first savage picked the first nugget of gold from a gravelly stream to the present, gold has had an irresistable hold on the imagination of the human race. A rumored gold strike will send hundreds of men from all stations of life into the most remote and dangerous country. The concentration of large numbers of men in a place remote from the fixed laws and police forces of civilization results in a sort of retrogression to primitive law. This long romantic history and the monetary value of gold combine to form in the mind of the average individual a highly tinted picture of the life which he associates with prospecting and gold mining in general. This picture shows only one side of life in the camps. It does not show the back-breaking labor, the danger, the rigorous conditions, and the poor accommodations which often associate themselves with a new camp.

A gold mining camp is like any other part of civilization. It grows and becomes progressively better as the industry settles down around it. Many camps are company owned and are quiet, orderly places. So when the miners' spirits get out of control they take themselves off to the nearest town and go on a "tear." This habit is an excuse for the existence of certain towns such as Val D'Or and Paris Valley which are not quiet, orderly places.

My work last summer was in the Val D'Or district at Siscoe Gold Mines in northwestern Quebec. Siscoe is on an island in Lake Kienawisik about 500 miles northwest of Montreal and 500 miles north of Toronto. Here there are half a dozen or so producing mines and innumerable prospects. Serving as safety valve for the area is the town of Val D'Or. There are about three or four thousand men and women in the area. The total number and the relative number of each varies somewhat with the raids of the provincial police.

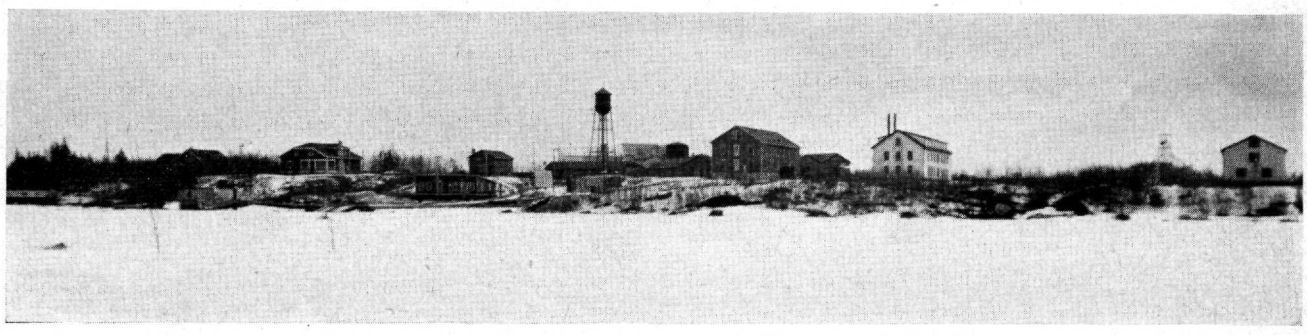
The Camp

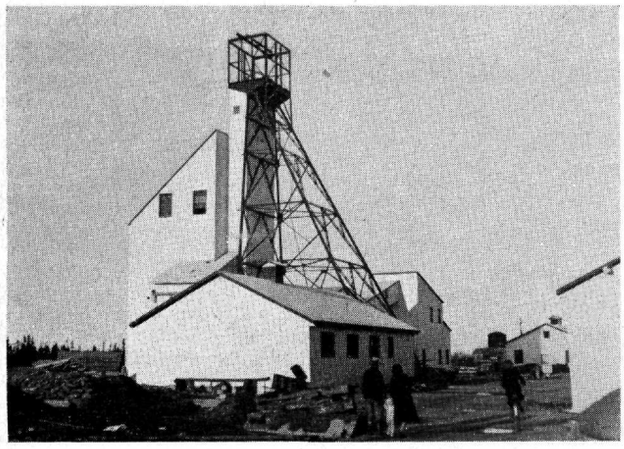
At Siscoe the camp consisted of the usual mine structures, a shafthouse, a mine office, a change house with arrangements against high-graders, a hoist house for the 250 h.p. Ingersoll-Rand hoist, and the various shops. The mine is connected to the mill by an 800-ft. aerial tram. There are houses for the married employees and bunkhouses for the single men. A central wood-fired boiler room furnishes steam for heating purposes. The power plant is entirely diesel powered and supplies 60 cycle current to the whole island and compressed air to the mine. The water comes from the lake and is filtered in small unit filters in the kitchens for cooking and drinking. The camp is always neat and well kept as there are several men employed for this purpose alone.

Meals are served to the men in a large cook house. Here they are seated 12 at a table and the man with the longest arms and the most efficient lower jaw gets the best of everything. The staff members are served in another room and, I presume, eat more sedately.

In the summer small taxi boats ply constantly up and down the lake and one can get to the mainland at any time via these boats. Two larger boats, one a steamer and one a diesel, make daily or tri-weekly trips to Amos, about sixty miles farther north, on the Canadian National Railway. In the winter taxis run on the ice. Planes may be called at any time from Amos or Noranda except during the freeze-up in the fall or the break-up in the spring. They furnish the most satisfactory but a more expensive means of travel.

MINING CAMP AT SISCOE





HEAD FRAME AT THE SHAFT

The Mine

The mine itself is operated through a vertical shaft. At intervals of 125 or 150 feet stations are cut in the rock for pumps, cars, chutes, etc., and to serve the workings on that level. From these stations, cross-cuts are driven to the main veins and the ore is brought to the station through these. Here it is loaded into the skips which go to the surface. The shaft is 1850 ft. deep and the farthest working is a mile from the shaft on the 600 ft. level.

The gold here occurs in white and gray quartz, in talc, and in silicified grano-diorite. The last two occurrences are very unusual. The country rock is a greenish grano-diorite intrusive into Kewatin greenstones. The gold at Siscoe is widely known for its coarseness and striking appearance. There are pockets of high-grade of phenomenal value scattered throughout the mine. In one case, of which I know, 28 powder boxes of high-grade were taken out by hand. The gold content of these was $30,000. The monthly output is about $200,000.

The Mill

In the mill the gold is separated from the valueless rock. At Siscoe about 70 per cent of the gold is recovered by mechanical concentration at the ball mill discharge. Twenty per cent more is recovered from corduroy blanket tables. The head blanket concentrate assays about $10,000 to the ton. The tail blanket assays about $150 to the ton. The remaining 10 per cent of the gold is recovered by cyanidation. The solution mainly of KCN and lime is introduced into the circuit at the ball mills. By the time the slime has passed the tables, the thickeners, and the agitators, the solution of the gold in the cyanide is practically complete. It is then precipitated by the addition of fine zinc and recovered in a filter press. The pregnant solution is separated from the slime by large rotary filters and further clarified in special clarifiers.

The milling is a continuous operation. Ample water must be provided for; for, if the supply failed, the slime would settle out in the machinery and days would be required for the clean up.

The Power House

The power house consists of eight large diesels and a couple of small ones. All the engines are solid injection. The total horse power on a 12 hour rating is 2040 at present. The electrical units are: an 8 cylinder, horizontal, 4 cycle, Crossley Premier at 675 h.p., three 4 cylinder, vertical, 2 cycle, Polar Atlas at 200 h.p. each, and a 6 cylinder, vertical, 2 cycle Polar Atlas at 300 h.p. all connected direct to generators. There are three compressors: a 3 cylinder, vertical, 4 cycle Crossley Bros. at 216 h.p., a 1 cylinder, horizontal straight line, 4 cycle Ingersoll-Rand at 150 h.p., and a 1 cylinder, horizontal straight line, 4 cycle Ingersoll-Rand at 105 h.p.

Provision is made for the storage of 1,600,000 gallons of fuel oil for the winter season. No difficulty has been experienced from the effects of the extreme cold in the winter months. The fuel consumption is 0.39 lb. per b.h.p. The injection pressures of the Crossley Diesels are 800 to 1000 lb. per sq. in. For the Polar Atlas type the pressures are 6300 to 7000 lb. per sq. in. The cost per horse power of the largest motor was $67.90 and the total cost ready to run was $45,832.82.

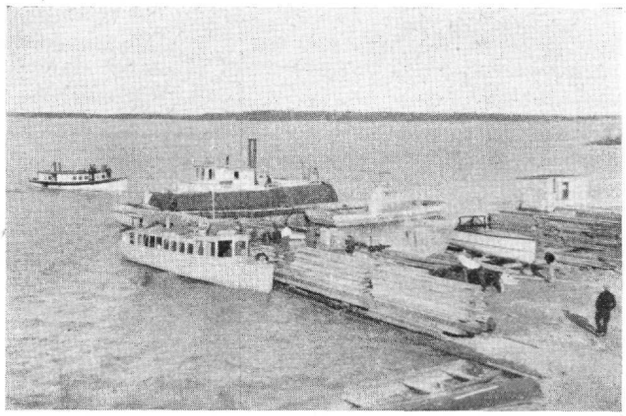
The Country

This part of Quebec is almost all flat although there are a few gentle swells. The area is thickly dotted with lakes; a river is only a succession of lakes. The timber has nearly all been cut and the resulting jackpine bush is almost impenetrable in places. The low ground is muskeg. This is a combination of moss and water which looks firm enough, but which doesn't act like it looks.

There are quite a few scattered Indians who live by the lakes and rivers. They are a lazy lot and never do today what they can put off till tomorrow. They live on fish, bear, or moose meat whichever is most easily obtainable. The average family gets around to making a pair of moccasions every five or six weeks which they trade for a supply of flour at some mine company store.

There is some game in this part of Quebec, although it is by no means a hunter's paradise. A fisherman might achieve something close to paradise if he could be satisfied with pike and pickerel. Moose may be seen occasionally from canoes and are seen quite frequently from the air.

A SHAFT CREW
THE AUTHOR AT THE RIGHT END



THE DOCK AT SISCOE

There are a few deer and bear. The bear are of the small black or brown variety and are not dangerous in the ordinary sense of the word. There are a few wolves. These wolves hunt singly and not in packs as they do farther north toward the barrens.

Val D'Or

Val D'Or is Spanish or something for "Valley of Gold." I do not know how many inhabitants Val D'Or has because when the miners are in town the nice people stay at home. The main street is 900 yards long. It is straight and wide. There is plenty of room for every one. Even if two Finlanders get to throwing beer bottles, there is still plenty of room for every one. Val D'Or's main street is Val D'Or's thermometer. If the marshall gets more than 200 yards from his office at one end of the street it is a bad night. In fact it must be raining and every one except the marshall is inside. If the marshall is not in sight and there are more than three fights in progress, the town is booming.

If you go to Val D'Or and want a drink, start any place on main street and count to the third house and you are at the right place. Val D'Or has two great days. One is when the town council voted to put in a new sewer. The other is when Ruby put in a new bar. Ruby flew to Montreal and ordered chromium mirrors and chromium trimmings. Ruby is all paid back in two months even if she doesn't sell beer anymore. Ruby doesn't serve beer because beer bottles are handy things to throw and Ruby's chromium mirrors cost her plenty. Ruby's waitresses serve whiskey in small glasses with a lot of glass for their size. Ruby makes lots of money.

Val D'Or also has a crisis. It is when the provincial police raid Val D'Or. Now the provincial police are not like the marshall. They are no respectors of persons; they are not even gentlemen. They do not even respect ladies because they put a lot of them in jail and then sent them away. I think they went to Paris Valley which is another town. Paris Valley is a bad town. Now, after the police raid Val D'Or there is practically no one but the marshall left. He walked all the way to the other end of main street. Then some immigrants came to Val D'Or and the marshall is again a shut-in.

This is a brief description of the life and operations in a mining region. I have attempted to discuss each technical subject in proportion to the number of readers who would be interested in that particular branch. Val D'Or has received more space because it has been my observation that Val D'Or is of interest to nearly every one.